CLAIMS

What Is Claimed Is:

- 1 An anti-diabetic composition comprising an aqueous extract of plants of the genus Brickellia. 2 2. The anti-diabetic composition of Claim 1, wherein the extract 1 2 is from Brickellia californica. 1 3. An anti-diabetic composition consisting of a flavonoid selected from the group consisting of luteolin, myricetin, dihydrokaemferol, 2 3 apigenin, quercetin and mixture thereof. 1 4. An anti-diabetic composition consisting of a mixture of luteolin, dihydrokaemferol and abigenin. 2 1 5. The anti-diabetic composition of Claim 4, wherein the molar concentration of luteolin is at least twice that of dihydrokaemferol and apigenin 2 added together. 3 A method for treatment of diabetes mellitus comprising the 1 . 6.
- 6. A method for treatment of diabetes mellitus comprising the step of administering a quantity of an aqueous extract of plants of the genus Brickellia to result in a reduction in blood glucose.
- 7. The method of Claim 6, wherein the extract is from *Brickellia* 2 californica.

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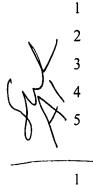
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A method for treatment of diabetes mellitus consisting of the step of administering a quantity of a flavonoid selected from the group consisting of luteolin, myricetin, dihydrokaemferol, apigenin, quercetin and mixtures thereof to result in a reduction in blood glucose.

- 9. The method of Claim 8, wherein a mixture of luteolin, dihydrokaemferol and apigenin is administered.
 - 10. The method of Claim 9, wherein the molar concentration of luteolin is at least twice that of dihydrokaemferol and apigenin added together.
- 1 11. A method of controlling diabetes mellitus in a mammal comprising the step of administering to the mammal a molecule that binds to K_v1.3 ion channels
- 3 K_v1.3 ion channels
- 1 12 The method of Claim 11, wherein the molecule is a 2 flavonoid.
 - 13 The method of Claim 12, wherein the flavonoid is luteolin.
- 1 14. A method of controlling unwanted proliferation to T-cells in a 2 mammal comprising the step of administering to the mammal a molecule that 3 binds to K_v1.3 ion channels.



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15. A method of screening a group of compounds for antidiabetic activity in a mammal comprising the step of determining which members of the group binds to and blocks $K_v1.3$ ion channels, wherein the members binding to and blocking $K_v1.3$ ion channels are selected as having potential antidiabetic activity.

16. A method of screening a group of compounds for ability to suppress autoimmune responses in a mammal comprising the step of determining which members of the group binds to and blocks $K_v 1.3$ ion channels, wherein the members binding to and blocking $K_v 1.3$ ion channels are selected as having potential ability to suppress autoimmune responses.

17. A compound that contrails diabetes mellitus in a mammal characterized in that the compound binds to and blocks $K_{\nu}1.3$ ion channels,

